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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/887,561	06/25/2001	Edward Colles Nevill	550-244	7551

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EXAMINER	
TANG, KUO LIANG J	

ART UNIT	PAPER NUMBER
2122	8

DATE MAILED: 01/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

P26

Office Action Summary	Application No.	Applicant(s)	
	09/887,561	NEVILL, EDWARD COLLES	
	Examiner	Art Unit	
	Kuo-Liang J Tang	2122	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 June 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *6*.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

1. Claims 1-4 and 10-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Bala US Patent No. 6,351,844.

2. As Per Claim 1, Bala discloses a Method and system that The instruction translator includes a translator for reading out a corresponding instruction from the instruction memory in response to the received address to be executed by the processor. (See Abstract and associated text). In that Bala discloses the method that covering the steps of:

"(i) a processor core operable to execute native instructions of a native instruction set;" (E.g., see col. 3:14-53 which states "...executing native code words ..." (processor);

"(ii) an instruction translator operable to interpret non-native instructions of a non-native instruction set into native instructions for execution by said processor core;" (E.g., see col. 3:14-53 which states "...interpret the non-native code words by executing native code words ..." (translator));

"(iii) said instruction translator is responsive to a return to non-native instruction of said non-native instruction set to return processing to a non-native instruction;" (E.g., see col. 3:14-53

which states "...returns an untranslated instruction address as the target address when execution of the translated code segment branches to the untranslated instruction address"). and

"(iv) said instruction translator is responsive to a return to native instruction of said non-native instruction set to return processing to a native instruction." (E.g., see col. 13:50-59 which states "...Execution flow will remain within the translated code in cache 250. ...").

3. As per Claims 2, the rejection of claim 1 is incorporated and further Bala teaches

"said instruction translator is a hardware based instruction translator." (E.g., see col. 14:65-67 to col. 15:1-18 which states "... it will be understood by those of ordinary skill in the art that all or parts of the invention can be implemented in hardware. ...").

4. As per Claims 3, the rejection of claim 1 is incorporated and further Bala teaches

"said instruction translator is a software based instruction translator." (E.g., see col. 14:65-67 to col. 15:1-18 which states "... although the present invention is described in the context of a software implementation ...").

5. As per Claims 4, the rejection of claim 1 is incorporated and further Bala teaches

"instruction translator is a combination of a hardware based instruction translator and a software based interpreter.." (E.g., see col. 14:65-67 to col. 15:1-18 which states "...although the present invention is described in the context of a software implementation, it will be understood by those of ordinary skill in the art that all or parts of the invention can be implemented in hardware. ...").

6. As per Claims 10, the rejection of claim 1 is incorporated and further Bala teaches "instruction translator is responsive to a plurality of types of return to non-native instruction." (E.g., see col. 13:43-49 which states "...control returns to interpreter 230 for execution based upon the register value, i.e. TRBRCH20(reg). ...").

7. As per Claims 11, the rejection of claim 10 is incorporated and further Bala teaches "plurality of types of return to non-native instruction are operable to return with respective different types of return value." (E.g., see col. 13:43-49 which states "...control returns to interpreter 230 for execution based upon the register value, i.e. TRBRCH20(reg). ...").

8. As per Claims 12, the rejection of claim 11 is incorporated and further Bala teaches "(i) a 32-bit integer return value; (ii) a 64-bit integer return value; (iii) an object reference return value; (iv) a single precision floating point return value; (v) a double precision floating point return value; and (vi) a void return value having no value." (E.g., see col. 13:43-49 which states "...control returns to interpreter 230 for execution based upon the register value, i.e. TRBRCH20(reg). ...").

9. As per Claims 13, the rejection of claim 1 is incorporated and further Bala teaches "instruction translator is responsive to a plurality of types of return to native instruction." (E.g., see col. 13:43-49 which states "...control returns to interpreter 230 for execution based upon the register value, i.e. TRBRCH20(reg). ...").

10. As per Claims 14, the rejection of claim 13 is incorporated and further Bala teaches "plurality of types of return to native instruction are operable to return with respective different types of return value." (E.g., see col. 13:43-49 which states "...control returns to interpreter 230 for execution based upon the register value, i.e. TRBRCH20(reg). ...").

11. As per Claims 15, Bala teaches

"(i) executing native instructions of a native instruction set using a processor core;" (E.g., see col. 3:14-53 which states "...executing native code words ..." (processor);

"(ii) interpreting non-native instructions of a non-native instruction set into native instructions for execution by said processor core;" (E.g., see col. 3:14-53 which states "...interpret the non-native code words by executing native code words ..." (translator));

"(iii) in response to a return to non-native instruction of said non-native instruction set, returning processing to a non-native instruction;" (E.g., see col. 3:14-53 which states "...returns an untranslated instruction address as the target address when execution of the translated code segment branches to the untranslated instruction address"). and

"(iv) in response to a return to native instruction of said non-native instruction set, returning processing to a native instruction." (E.g., see col. 13:50-59 which states "...Execution flow will remain within the translated code in cache 250. ...").

12. As per Claims 16, the rejection of claim 15 is incorporated and further Bala teaches

"A computer program product carrying a computer program for controlling a data processing apparatus" (E.g., see Abstract)).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bala US Patent No. 6,351,844 in view of Dickol et al. US Patent No. 5,875,336 (hereinafter Dickol).

14. As Per Claim 5, the rejection of claim 1 is incorporated and further Bala doesn't explicitly disclose non-native instructions are Java Virtual Machine instructions. However, Dickol teaches "non-native instructions are Java Virtual Machine instructions." (E.g., see col. 1:35-61 which states "...Java would be a non-native instruction set with respective to the Web user's computer."). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Dickol into the system of Bala, to use Java as non-native instructions. The modification would have been obvious because one of ordinary skill in the art would have been motivated to view and interact with the animation and the interactive applications on the Web.

15. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bala US Patent No. 6,351,844 in view of Yates et al. US Patent No. 6,091,897 (hereinafter Yates).

16. As Per Claim 6, the rejection of claim 1 is incorporated and further Bala doesn't explicitly disclose a non-native veneer subroutine. However, Yates teaches "a non-native subroutine is called from native code via a non-native veneer subroutine, such that, upon completion of said non-native subroutine, a return to non-native instruction can be used to return processing to said non-native veneer subroutine with a return to native instruction within said non-native veneer subroutine serving to return processing to said native code" (E.g., see col. 33:18-36; "translated" is native, "not translated" is non-native). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Yates into the system of Bala, to use a non-native veneer subroutine. The modification would have been obvious because one of ordinary skill in the art would have been motivated to invoke a subroutine call to an appropriate native subroutine when said instruction fetch is for a complex non-native instruction.

17. As Per Claim 7, the rejection of claim 6 is incorporated and further Bala doesn't explicitly disclose non-native subroutine is also called from non-native code. However, Yates teaches "non-native subroutine is also called from non-native code." (E.g., see col. 33:18-36). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Yates into the system of Bala, to use non-native subroutine called from non-native code. The modification would have been obvious because one

of ordinary skill in the art would have been motivated to invoke a type of subroutine with same type of code instructions set to keep the program code unique and portable.

18. As Per Claim 8, the rejection of claim 6 is incorporated and further Bala doesn't explicitly disclose non-native veneer subroutine is dynamically created. However, Yates teaches "non-native veneer subroutine is dynamically created when said non-native subroutine is called from native code." (E.g., see col. 33:18-36). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Yates into the system of Bala, to use dynamically created non-native veneer subroutine. The modification would have been obvious because one of ordinary skill in the art would have been motivated to use translated routine calls another translated Routine.

19. As Per Claim 9, the rejection of claim 8 is incorporated and further Bala doesn't explicitly disclose non-native veneer subroutine is created stored within a stack memory area used by native code operation. However, Yates teaches "non-native veneer subroutine is created stored within a stack memory area used by native code operation." (E.g., see col. 33:18-36). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Yates into the system of Bala, to use dynamically created non-native veneer subroutine. The modification would have been obvious because one of ordinary skill in the art would have been motivated to use translated routine calls another translated Routine.

Conclusion

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuo-Liang J Tang whose telephone number is 703-305-4866. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q Dam can be reached on 703-305-4552.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9306.

Kuo-Liang J. Tang

Software Engineer Patent Examiner

TUAN DAM
SUPERVISORY PATENT EXAMINER